

What is claimed is:

1. A lighting device according to an embodiment of the present invention comprising:

a first socket assembly having a first socket which is made of a soft and elastic bar shape conductor, on which a plurality of lamp inserting holes are formed along a longitudinal direction, and a first socket holder in which the socket is received and which is made of an insulator having higher rigidity than the socket;

a second socket assembly having a second socket which is made of a soft and elastic bar shape conductor and on which a plurality of lamp inserting holes are formed along a longitudinal direction, and a second socket holder in which the socket is received and which is made of an insulator having higher rigidity than the socket and is placed to face the first socket assembly;

a plurality of fluorescent lamps having a glass lamp vessel each one end of which is inserted in one of the plurality of lamp inserting holes of the first socket in the first socket assembly, and each other end of which is inserted in one of the plurality of lamp inserting holes of the second socket in the second socket assembly; and

a high frequency power source which supplies a high frequency voltage between the first socket in the first socket assembly and the second socket in the second socket assembly.

2. A lighting device according to claim 1, wherein the

a plurality of fluorescent lamps is a dielectric barrier type discharge lamp having a glass lamp vessel, on both end of which an external electrode is formed.

3. A lighting device according to claim 2 or 3, wherein the first socket is made of a conductive rubber, which is molded by silicone rubber mixed with carbon black.

4. A lighting device according to claim 3, wherein the first socket is made of a conductive rubber, which is molded by silicone rubber mixed with carbon black of 30 to 40 wt. % and silica of 1 to 10 wt. %.

5. A lighting device according to claim 4, wherein the external electrode of the dielectric barrier type discharge lamp has an outer diameter somewhat larger than the lamp inserting hole of the first or second socket, and has a length with which an end of the external electrode protrudes from the other side of the first or second socket when the external electrode is inserted in the lamp inserting hole.

6. A lighting device according to claim 1 or 2, wherein the first or second socket is provided with a harness connecting portion, which is a concave portion formed at an end of the socket, and a metal fitting for screwing the harness terminal connected with said high frequency power source is fitted in the concave portion of the harness connecting portion.

7. A lighting device according to claim 6, wherein the harness-connecting portion is provided with a metal nut for screwing the harness terminal, which is fixed by burning on

the bar shape conductor forming the first or second socket.

8. A lighting device according to claim 7, wherein the metal nut has a peripheral shape of a polygon or a circle with projections.

9. A lighting device according to claim 8, wherein a screw boss is fixed on one end of the first or second socket holder and a insertion hole for inserting the screw boss is formed on one face of the first or the second socket where the harness connecting portion is provided,

wherein a through hole, which communicates with the inserting hole, is provided on the other face of the first or second socket holder, and

wherein the first or second socket is fixed on the first or second socket holder respectively, by coupling the screw inserted in the through hole with the screw boss.

10. A lighting device according to claim 1 or 2, wherein the first socket is provided with the harness-connecting portion on its one end portion, and the second socket is provided with the harness-connecting portion on its end portion, which is located at an opposite side of the end portion of the first socket, so that each circuit for supplying a high frequency voltage to each of the discharge lamps from the high frequency power source has a nearly equal circuit length.

11. A lighting device according to claim 2, wherein a plurality of fixing protrusions are provided along a longitudinal direction on the first or second socket holder,

and a plurality of fixing holes having an opening area somewhat smaller than the cross section of the fixing protrusions are provided along a longitudinal direction on the first or second socket so that the first or second socket is received in the first or second socket holder by pressing the plurality of fixing protrusions into the plurality of fixing holes.

12. A lighting device according to claim 10, wherein the first or second socket holder is made of a flame resistant insulator, and is constructed to cover the side face of the first or second socket except for the face where the plurality of lamp insertion holes are open.

13. A socket assembly for a fluorescent lamp comprising:
a first socket assembly including a first socket which is composed of a soft and elastic bar shape conductor which is provided with a plurality of lamp inserting holes along a longitudinal direction, and a first socket holder in which the socket is received and which is made of an insulator having higher rigidity than the socket; and

a second socket assembly including a second socket which is made of a soft and elastic bar shape conductor and which is provided with a plurality of lamp inserting holes along a longitudinal direction, and a second socket holder in which the socket is received, which is made of an insulator having higher rigidity than the socket, and which faces the first socket assembly with a space.

14. A socket assembly for a fluorescent lamp according

to claim 13, wherein the first socket is made of a conductive rubber, which is molded by silicone rubber mixed with carbon black.

15. A socket assembly for a fluorescent lamp according to claim 14, wherein the first socket is made of a conductive rubber, which is molded by silicone rubber mixed with carbon black of 30 to 40 wt. % and silica of 1 to 10 wt. %.

16. A socket assembly for a fluorescent lamp according to claim 15, wherein the first or second socket is provided with a harness-connecting portion, which is a concave portion formed at an end of the socket, and a metal fitting for screwing the harness terminal connected with the high frequency power source is fitted in the concave portion of the harness connecting portion.

17. A socket assembly for a fluorescent lamp according to claim 15, wherein the harness-connecting portion is provided with a metal nut for screwing the harness terminal, which is fixed by burning on the bar shape conductor forming the first or second socket.

18. A socket assembly for a fluorescent lamp according to claim 17, wherein the metal nut has a peripheral shape of a polygon or a circle with projections.

19. A socket assembly for a fluorescent lamp according to claim 18, wherein a screw boss is fixed on one end of the first or second socket holder and an insertion hole for inserting the screw boss is formed on one face of the first or the second

socket where the harness connecting portion is provided,
wherein on the other face of the first or second socket holder, a through hole, which communicates with the inserting hole, is provided, and

wherein the first or second socket is fixed on the first or second socket holder respectively, by coupling the screw inserted in the through hole with the screw boss.

20. A socket assembly for a fluorescent lamp according to claim 13, wherein a plurality of fixing protrusions are provided along a longitudinal direction on the first or second socket holder, and a plurality of fixing holes having an opening area somewhat smaller than the cross section of the fixing protrusions are provided along a longitudinal direction on the first or second socket, so that the first or second socket is received in the first or second socket holder by pressing the plurality of fixing protrusions into the plurality of fixing holes.

21. A socket assembly for a fluorescent lamp according to claim 20, wherein the first or second socket holder is made of a flame resistant insulator, and is constructed to cover the side face of the first or second socket except for the face where the plurality of lamp insertion holes are open.

22. A power supply unit for a fluorescent lamp comprising:
a first socket assembly including a first socket which is made of a soft and elastic bar shape conductor which is provided with a plurality of lamp inserting holes along a

longitudinal direction, and a first socket holder in which the socket is received and is made of an insulator having higher rigidity than the socket;

a second socket assembly including a second socket which is made of a soft and elastic bar shape conductor which is provided with a plurality of lamp inserting holes along a longitudinal direction, and a second socket holder in which the socket is received, which is made of an insulator having higher rigidity than the socket, and which faces the first socket assembly with a space; and

a high frequency power source, which supplies a high frequency voltage between the first socket of the first socket assembly and the second socket of the second socket assembly.

23. A power supply unit for a fluorescent lamp according to claim 22, wherein the first socket is made of a conductive rubber, which is molded by silicone rubber mixed with carbon black.

24. A power supply unit for a fluorescent lamp according to claim 23, wherein the first socket is composed of a conductive rubber, which is molded by silicone rubber mixed with carbon black of 30 to 40 wt. % and silica of 1 to 10 wt. %.

25. A power supply unit for a fluorescent lamp according to claim 22, wherein the first socket is provided with the harness-connecting portion on its one end portion, and the second socket is provided with the harness-connecting portion on its end portion, which is located at an opposite side of the end

portion of the first socket, so that each circuit for supplying a high frequency voltage to each of the plurality discharge lamps of dielectric barrier type from the high frequency power source has a nearly equal circuit length.

26. A liquid crystal display unit comprising:

a first socket assembly including a first socket which is made of a soft and elastic bar shape conductor which is provided with a plurality of lamp inserting holes along the longitudinal direction, and a first socket holder in which the socket is received and which is made of an insulator having higher rigidity than the socket;

a second socket assembly including a second socket which is made of a soft and elastic bar shape conductor which is provided with a plurality of lamp inserting holes along a longitudinal direction, and a second socket holder in which the socket is received, which is made of an insulator having higher rigidity than the socket, and which faces the first socket assembly with a space;

a plurality of fluorescent lamps including a glass vessel, one end of which is inserted into one of the lamp inserting holes of the first socket of the first socket assembly and the other end of which is inserted into one of the lamp inserting holes of the second socket of the second socket assembly;

a high frequency power source, which supplies a high frequency voltage between the first socket of the first socket assembly and the second socket of the second socket assembly;

and

a liquid crystal display panel arranged in the vicinity
of the plurality of the fluorescent lamps.